

	1	10	20	30	40	50	60
Hum_PTP13	DFPCRVAKL	PKNKN	RNRYRDV	SPFDH	SRIKL	HQE	DN
Hum_TCPTP	DYPHRVA	KFPENRN	RNRYRDV	SPYDHS	RV	LQNA	EN
Hum_PTP_xi_D1	GITADSSN	HDPDNKH	KNRYINIV	AYDHS	RVKLA	QAL	AEK
Hum_PTP_zela_D1	GITADSSN	HDPDNKH	KNRYINIV	AYDHS	RVKLA	QAL	AEK
Hum_PTP_gamma_D1	NITAEHSN	HDPDNKH	KNRYINIV	AYDHS	RVKLR	PL	PGK
Dros_PTP99A_D1	DLPCEHSQ	HDPENKR	KNRYLNIT	AYDHS	RVHLH	PT	PGQ
Hum_LCA_D1	QFTWENS	NLEVNKP	KNRYANVI	AYDHS	RVILT	SI	DGV
Hum_PTP_mu_D1	SAPWDS	AKKDENRM	KNRYGNII	AYDHS	RVRLQ	TI	EGD
Hum_PTP_alpha_D1	QATCEA	ASKEENKE	KNRYVNIL	PYDHS	RVHLT	TPV	EGV
Hum_PTP_opsilon_D1	QGTFFEL	ANKEENRE	KNRYPNIL	PNDHS	RVILS	QAL	DGI
Mouso_CD45_D1	KFPIKD	ARKPHNQ	KNRYVDIL	PYDYN	RVELSE	I	NGD
Hum_SH.PTP2	LYSRKE	GQRQENKN	KNRYKNIL	FPDHT	RVVLH	DG	DPN
Hum_SH.PTP1	LHQRL	EGQRPENKG	KNRYKNIL	FPDHS	RVILQ	GR	DSN
Hum_PTP_bola	NQSCDI	ALLPENRG	KNRYNNIL	PYDAT	RVKLS	NV	DDD
Dros_PTP10D	DQCTFA	DLPCNRP	KNRFTN	ILPYDHS	SRFKL	QPV	DDD
Hum_SAP.1	SQSQMV	ASASENNA	KNRYRNVL	PYDWS	RVPLK	PI	HEE
Ral_PTP_STEP	FVDPKE	YDIPGLVR	KNRYKTIL	PNPHS	RVRLT	SP	DPE
Dros_PTP69A_D1	DRTTKN	SDLKENAC	KNRYPD	IKAYD	QTRVK	LAVI	NGL
Hum_MEG2	VGTFHC	SMSPGNLE	KNRYGDV	VPCLD	QTRVK	LTKR	SGH
Hum_PTP.PEST	IYPTAT	GEKEENVK	KNRYKDI	LPEDH	SRVKL	TLLK	TPS
Hum_PTPH1	GLAITF	AKLPQNLD	KNRYKDV	LPYDT	TRVLL	QGN	EDY
Dici_PTP1	PSETSE	GDKKHNTS	KNRYTNIL	PNVNH	TRVQL	KKI	QDK
Fiss_yeast_pyp1	QWSTVD	SLSNTSYK	KNRYTDIV	PYNCT	TRVHL	KRT	SPS
Fiss_yeast_pyp2	WCCLAS	SRSTSISR	KNRYTDIV	PYDKT	RVRLA	VP	KGC
Hum_PTP_xi_D2	GITADSS	NHDPDNKH	KNRYINIV	AYDHS	RVKLA	QAL	AEK
Hum_LCA_D2	TSRFIS	ANLPCNKF	KNRLVNI	MPYEL	TRVCL	QPI	RGV
Hum_PTP_alpha_D2	NDKMRT	GNLPCNMK	KNRVLQI	IPYEF	NRVIL	IPVK	RGE
Hum_PTP_opsilon_D2	KENMRT	GNLPCNMK	KARVIQI	IPYDF	NRVIL	SMK	RGQ
Hum_PTP_mu_D2	VEDCSI	ALLPRNHE	KNRCMDI	LPDDR	CLPFL	ITI	DGE
Mouse_CD45_D2	WRTQHI	GNQEENKK	KNRNSNV	VPYDF	NRVPL	KHELEMSKESE	PESEDDSD
Dros_PTP69A_D2	SKSCSV	GENEENNM	KNRSOEI	IPYDR	NRVIL	TP	PMR
Hum_PTP_zeia_D2	QSDYSA	ALKQCENRE	KNRTSSI	IPVRS	RVG	ISSL	SGE
Hum_PTP_gamma_D2	VECFSA	QKECNKE	KNRNSV	VPSE	RARVGL	APL	PGM
Dros_PTP99A_D2	ETNLMA	EOVEELKNCT	PYLEOOY	KNIIQ	FOPKD	IIHIASAMKOVNSI	KNRGAIFPIEGSRVHLTPKP
Varsinia_PTP	TNDPRY	LOACGGEKI	LNFRFDI	QCCROT	AVRAD		
PTP1Bseq.no.	30	40	50	60			

Fig. 1A

PTP1B66

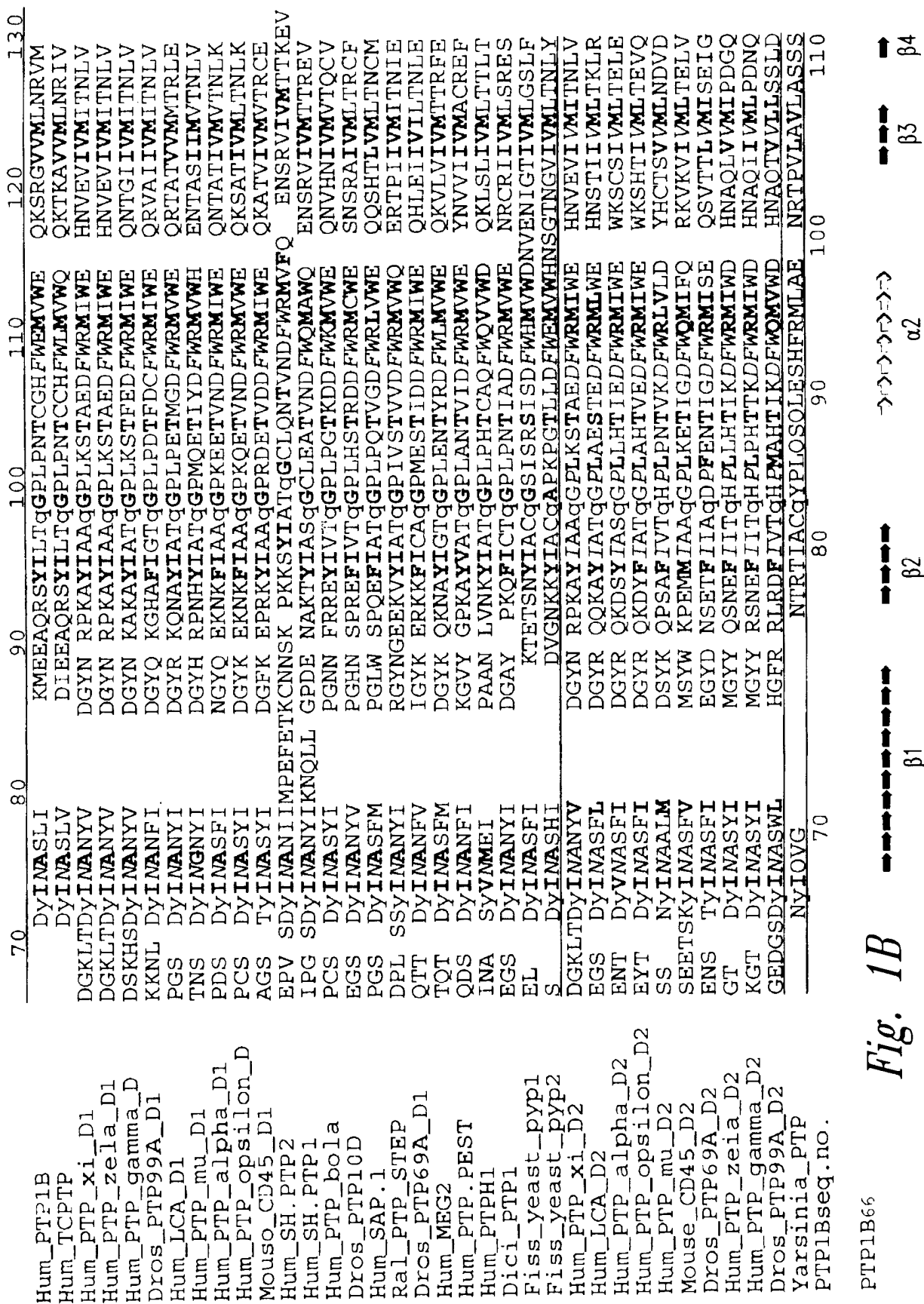
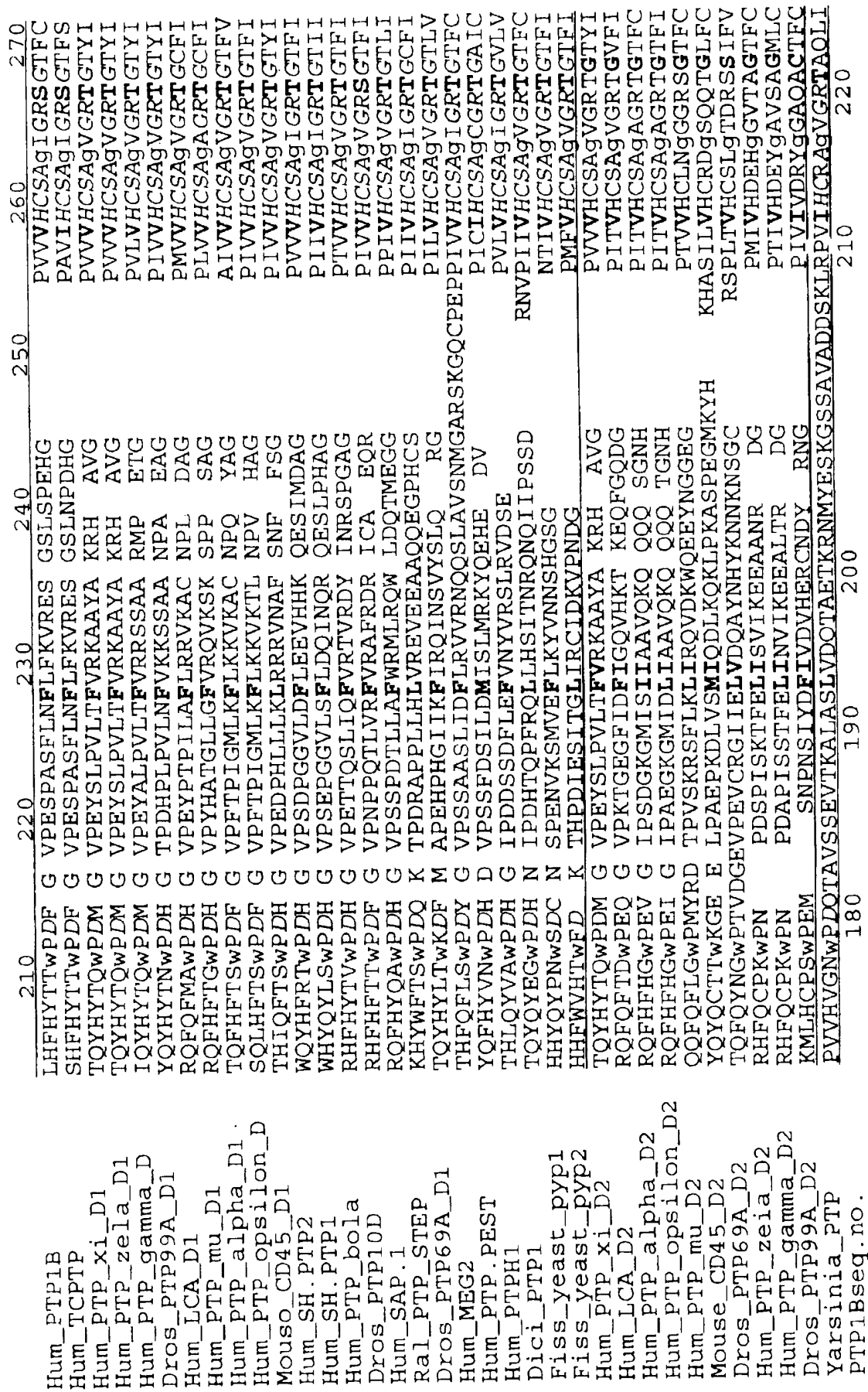


Fig. 1B

PTP1B66

Hum_PTP1B	EKGSLLKCA	QYWPQKEEKEM	140	150	160	170	180	190	200
Hum_TCPTP	EKESVKCA	QYWPT DDQEM	IFEDTNLKLTLISED	IKSYTYTVL	LELE	NLTQETREI			
Hum_PTP_xi_D1	EKGRRKCD	QYWP ADGSE	EYGN FLVTQKS	VQLAYTYV	TFLRNTKIKKG	SQKGRPSGRV			
Hum_PTP_zeia_D1	EKGRRKCD	QYWP ADGSE	EYGN FLVTQKS	VQLAYTYV	TFLRNTKIKKG	SQKGRPSGRV			
Hum_PTP_gamma_D	EKGRRKCD	QYWP TENSE	EYGN IIVTLKST	KIHACVTVFS	IRNTKVKGQKGNPKGRQNERV	KKQCNTSEKLV			
Dros_PTP99A_D1	ERGRRKCD	MYWP KDGE	TYGV IQVKLIEE	VMSTYTVL	QIKHLKLKK	KKSSEKREL			
Hum_LCA_D1	EKSRVKCD	QYWP ARGTE	TCGL IQVTL	LLDTVELLA	TYTVFALH	KRGVHEIREI			
Hum_PTP_mu_D1	EVGRVKCC	KYWP DDTE	IYKD IRVSV	EDTVLVDY	TVFCIQQVG	DMTNRKPQRLI			
Hum_PTP_alpha_D1	ERKECKCA	QYWP DQGCW	TYGN IRVSV	EDTVLVDY	TVFCIQQVG	PDGCKAPRLV			
Hum_PTP_opsilon_D	ERKECKCH	QYWP DQGCW	TYGN IRVSV	EDTVLVDY	TVFCIQQVG	KKEKATGREV			
Mouso_CD45_D1	EGNRNKCA	EYWPSMEEGTR	AFKD IAVT	INDHKRCPDY	IILNVAH	VGQGNTERTV			
Hum_SH.PTP2	ERGKSKCV	KYWPD EYALK	EYGV MRVR	NKESA	AHDYTLKLKSK	LDNGDLIREI			
Hum_SH.PTP1	EKGRNKCV	PYWPE VGMQR	AYGP YSV	TNCGEHD	TTEYKLLQVSP	EEQLDAHRLI			
Hum_PTP_bola	EKGRVKCD	HYWPA DQDSL	YYGD LILQ	MLSESVLP	EWTFIKICG	RGSEQRIL			
Dros_PTP10D	EKGREKCD	QYWPN DTPV	FYGD IKVQ	ILNDSHY	ADWVMFMLC	QVEEQKTLV			
Hum_SAP.1	EAGRVKCE	HYWPL DSQPC	THGH LRV	TLVGE	VMENWTVLLLL	RGTEERGL			
Ral_PTP_STEP	EMN EKCT	EYWP EEQV	VHDG VEIT	VQKVI	HTEDYRLISLR	VGEEDRRQI			
Dros_PTP69A_D1	EYNKAKCA	KYWPEKVFDTK	QFGD ILVK	FAQERK	TDYIELNVSKNKAN	NTEERQKRQV			
Hum_MEG2	EGRRKCG	QYWPLEKDSRI	RFGF LTV	NLGVEN	MNHKKLEIH	FQNESSRL			
Hum_PTP.PEST	EMGRKKCE	RYWPLYGEDPI	TFAP FK	ISCED	EQARTDYFILLLE	NTQTGEEHTV			
Hum_PTPH1	ERGRTKCH	QYWPD PPDVM	NHGG FHI	QCQSED	CTIAYVSM	LTQEGETRDI			
Dici_PTP1	ENCRKCD	RYWPEQIGGEQFS	IYGN	NEVFGTYS	VELVEVIQCREIITRNIR	NANFSPVKKV			
Fiss_yeast_pyp1	EAGREMC	AYWPSNGIGDK	QVYGDY	CVKQISE	ENVDNSRFLFEIQ	DKPNGPPKYI			
Fiss_yeast_pyp2	EAGSEKCS	QYWPDNKDHALCLEGG	LRISVOK	YETFE	DLKVHLFRL	SQKGRPSGRV			
Hum_PTP_xi_D2	EKGRRKCD	QYWP ADGSE	EYGN FLVT	QKSQVLA	YTYVTLRNTKIKKG	DARDGQSRTI			
Hum_LCA_D2	EMGREKCH	QYWP AERSA	RYQY FV	DPMAE	YNMPQYILFKVT	NTRENKSRQI			
Hum_PTP_alpha_D2	ERGQEKCA	QYWP SDGLV	SYGD IT	VELKKEE	CCESYTVLLVT	ARQEEQVRV			
Hum_PTP_opsilon_D2	EREQDKCY	QYWP TEGSV	THGE IT	IEIKND	TLSEALISIFLVT	ARQDGYRMV			
Hum_PTP_mu_D2	PA_QLCP	QYWP ENGVA	RHGP IQ	VEFVS	ADLEEDIIISFRIYNA	HSKRKEPRTV			
Mouse_CD45_D2	NGDQEVCA	QYWP GEGKQ	TYGD ME	VEMKD	TNRASAYTLFELR	NCKIDDTLV			
Dros_PTP69A_D2	D_GPRKCP	RYWA DDEVQ	YDH IL	VKYVH	SESCPYTFFYVT	ATQDDYVLEV			
Hum_PTP_zeia_D2	NMAEDEFV	YWP	NKDEP	INCESF	KVTLMA	EEHKCLSNEEKLIIFILE			
Hum_PTP_gamma_D2	SLAEDEFV	YWP	SREESM	NCEAFT	VTLLISK	DRCLCSNEEQIIIFILE			
Dros_PTP99A_D2	D_INF	QFWD	EATPIESDHY	RVKFL	NKTKNSDYSFVIO	SIQDDYELTV			
Yarsinia_PTP	EIANQRF	GMPDYFR	OSGT	YGSIT	VESKMT	OOVGLG	DGINMYTTLTI		
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PTP1B66  
 Fig. 1C  
 β5 β6 β7 β8

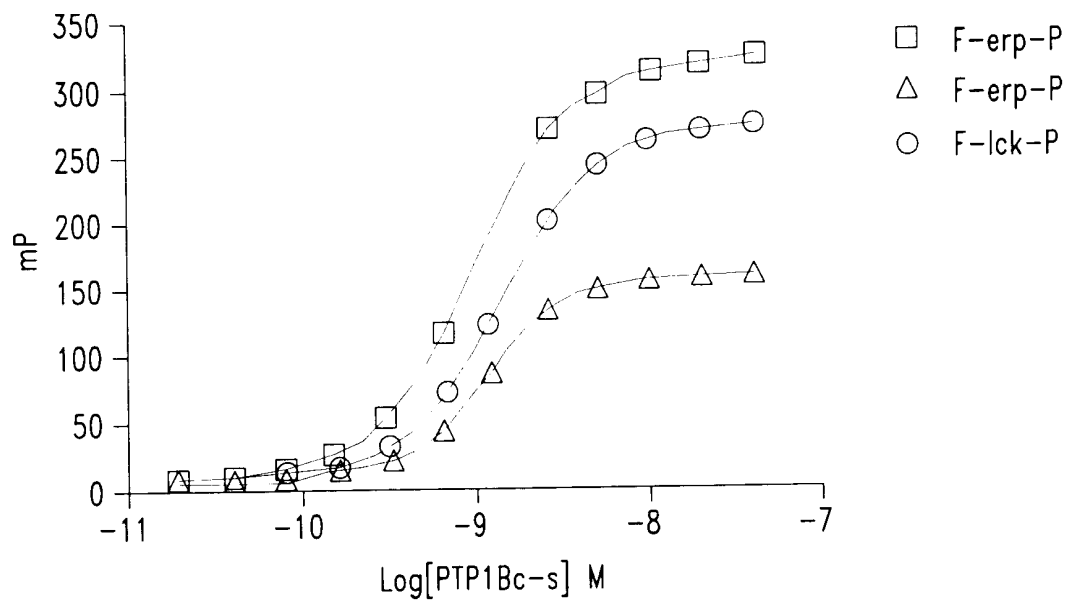


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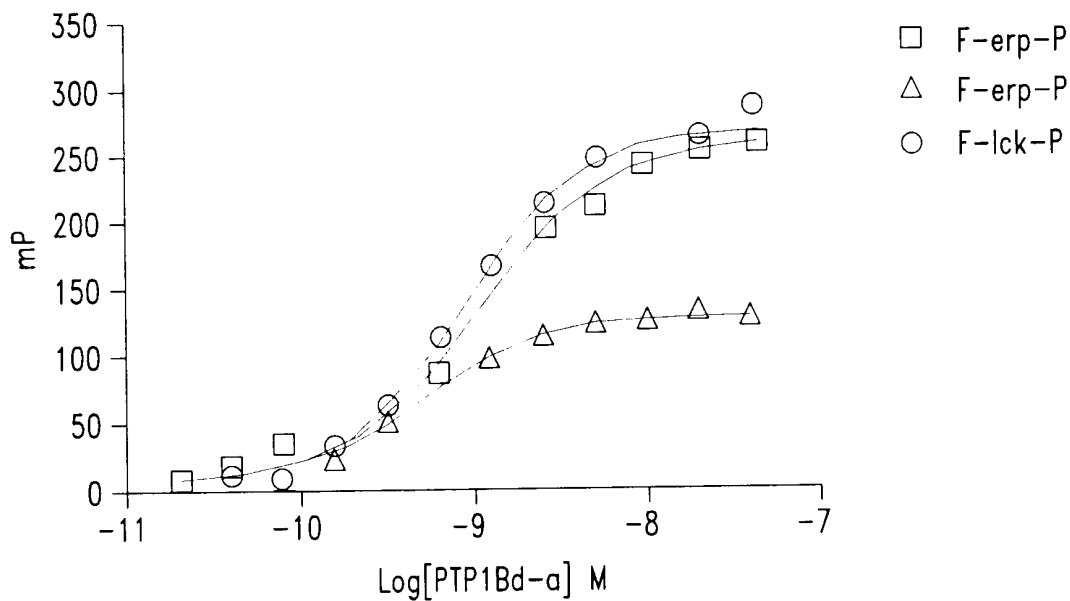
*Fig. 1D*

	280	290	300	310	320	330	340
Hum_PTP1B	LADTCLLLMDKR	KDPSSVDI	KKVLLMRKFRMG	LIQTADQLRFSYLA	IEGAKFIMGD		
Hum_TCPTP	LVDTCCLVLMKGG	DD	INI	KQVLLNMRKYRMG	LIQTDPDQLRFSYMA	IEGAKCIKGDSS	
Hum_PTP_xi_D1	VLDSTMLOQIQHE	GT	VNI	FGFLKHIRSQRY	LVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_PTP_zeia_D1	VLDSTMLOQIQHE	GT	VNI	FGFLKHIRSQRY	LVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_PTP_gamma_D	VIDSMLOQIQDK	ST	VNV	LGFLKHIRTQRY	LVQTEEQYIFIHDA	LEAAILGKETEV	
Dros_PTP99A_D1	VLDAMLKQIQK	NI	VNV	FGFLRHIRAQRF	LVQTEEQYIFLHDA	LEAIAASGETNL	
Hum_LCA_D1	VIDAMLERMKHE	KT	VDI	YGHVTCMRSQRY	MVQTEEQYVFIHEA	LEAATCGHTEV	
Hum_PTP_mu_D1	VIDIMLDMAERE	GV	VDI	YNCVRELRSRRVN	MVQTEEQYVFIHDA	LEAALCGDTSV	
Hum_PTP_alpha_D1	VIDAMLDMMHTE	RK	VDV	YGFVSRIARQRCQ	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Hum_PTP_onsilon_D	VIDAMMAMMHAE	QK	VDV	FEFVSRIARNQRPQ	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Mouso_CD45_D1	GIDAMLEGLEAE	GK	VDV	YGYVVKLRRQRCL	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Hum_SH.PTP2	VIDILIDIIREK	GLDCDIDI	VDI	PKTIQMVRSQRS	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Hum_SH.PTP1	VIDMLMENISTK	DS	VDI	YGAHVLDRLHRVH	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Hum_PTP_bola	ALDRILQQLDSK	DY	VDI	FGIVYAMRKERVW	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Dros_PTP10D	TLDRILQQLQSE	GL	LGP	FSFVRKMRRESRPL	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Hum_SAP.1	ATSICCQQLRRE	GV	VSI	LKTTCQLRQDRGG	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Ral_PTP_STEP	ALDSLIIQQLLEE	DS	VSI	YNTVCDLRHQRF	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Dros_PTP69A_D1	SLDICIQAQLEEL	GT	LN	FQTVSRMRTQRAF	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Hum_MEG2	AIDYTNWLLKAG	KIPEEFNV	FNLIQEMRTQHS	AVQTEQYVFIYQAL	LEHLYYGDTEL		
Hum_PTP.PEST	TMETAMCLTERN	LP	IYP	LDIVRKMRDQRAM	MVQTEEQYVFIYQAL	LEHLYYGDTEL	
Hum_PTPH1	TAVIMMKLLDHYFK	QLDYNSRIDFNL	FSIVLKLREQRPG	MVQTEEQYVFIYQAL	LEHLYYGDTEL		
Dici_PTP1	VLDTILRFPESKL	SGFNPSVADSSDV	FQVLDHVRKQRMK	MVQTEEQYVFIYQAL	LEHLYYGDTEL		
Fiss_yeast_pyp1	AVDQILQVPKNILPK	TTNLEDSKDFI	NCVNSLRQRMK	MVQTEEQYVFIYQAL	LEHLYYGDTEL		
Fiss_yeast_pyp2	VLDSTMLOQIQHE	GT	VNI	FGFLKHIRSQRY	LVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_PTP_xi_D2	TLSTVLERMRYE	GV	VDM	FQTVKTLRTQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_LCA_D2	ALSTVLERVKA	GI	LDV	FQTVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_PTP_alpha_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_PTP_onsilon_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_PTP_mu_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Mouse_CD45_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Dros_PTP69A_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_PTP_zeia_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Hum_PTP_gamma_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Dros_PTP99A_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
Yarsinia_PTP	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	
PTP1Bseq.no.	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDTL	VEAAILSKETEV	

PTP1B66  
 Fig. 1E  
 PTP1Bseq.no.  
 α4  
 α5  
 α6



*Fig. 2*



*Fig. 3*

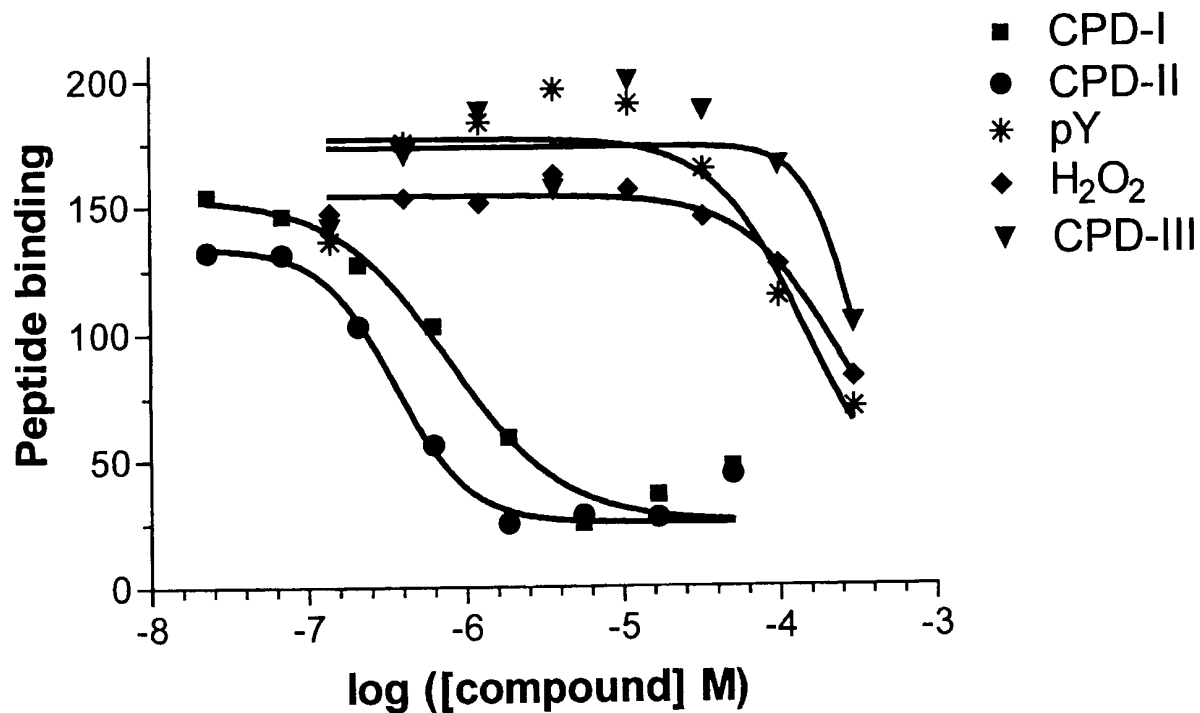


Fig. 4A

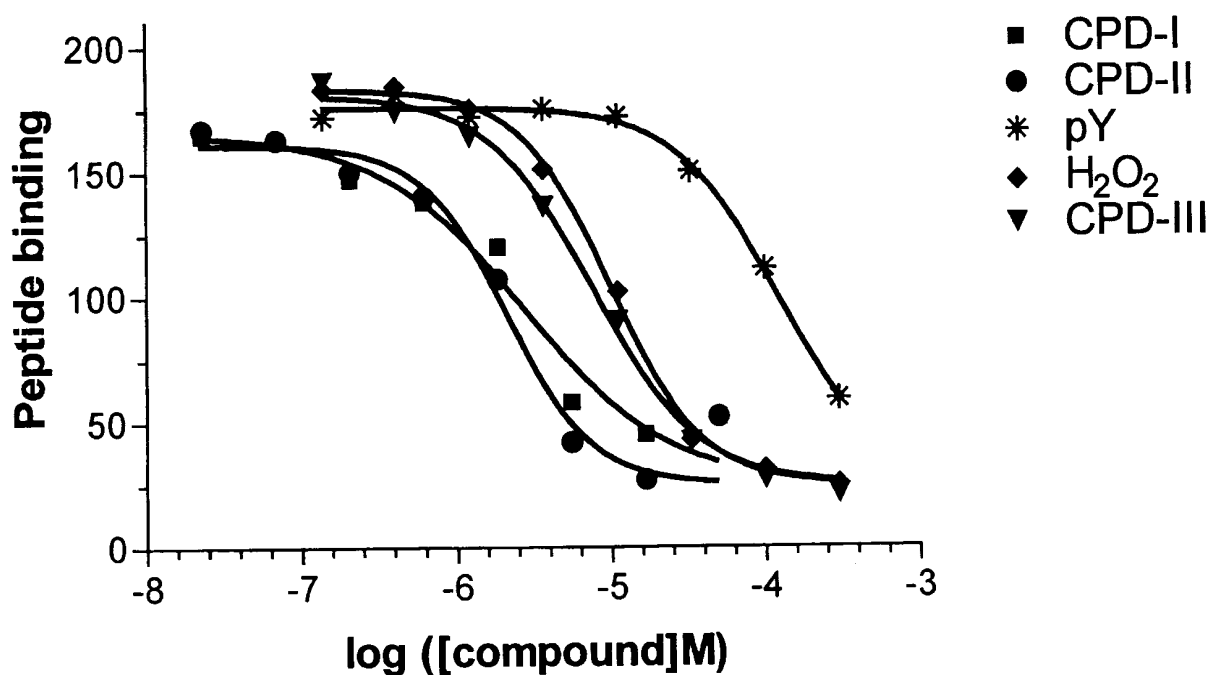


Fig. 4B

Binding of P-ERP: ERP mixture with G104

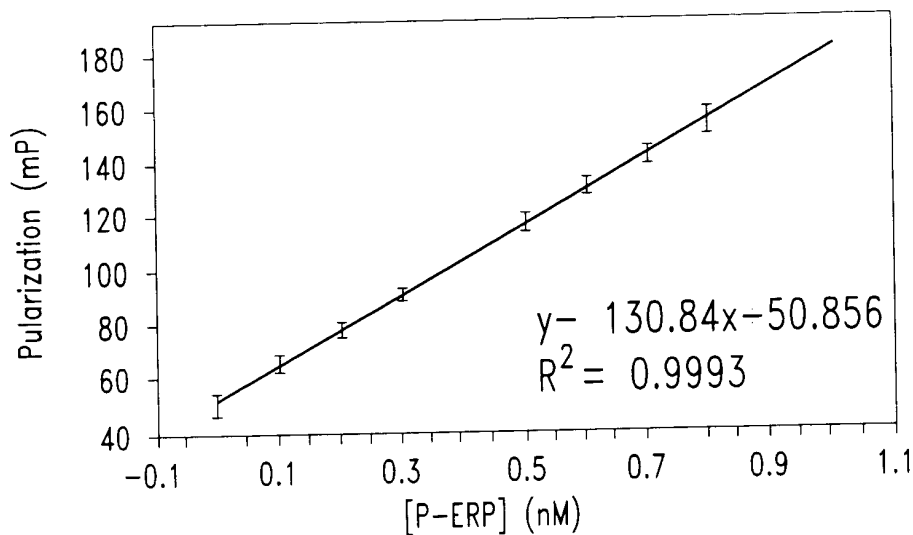


Fig. 5

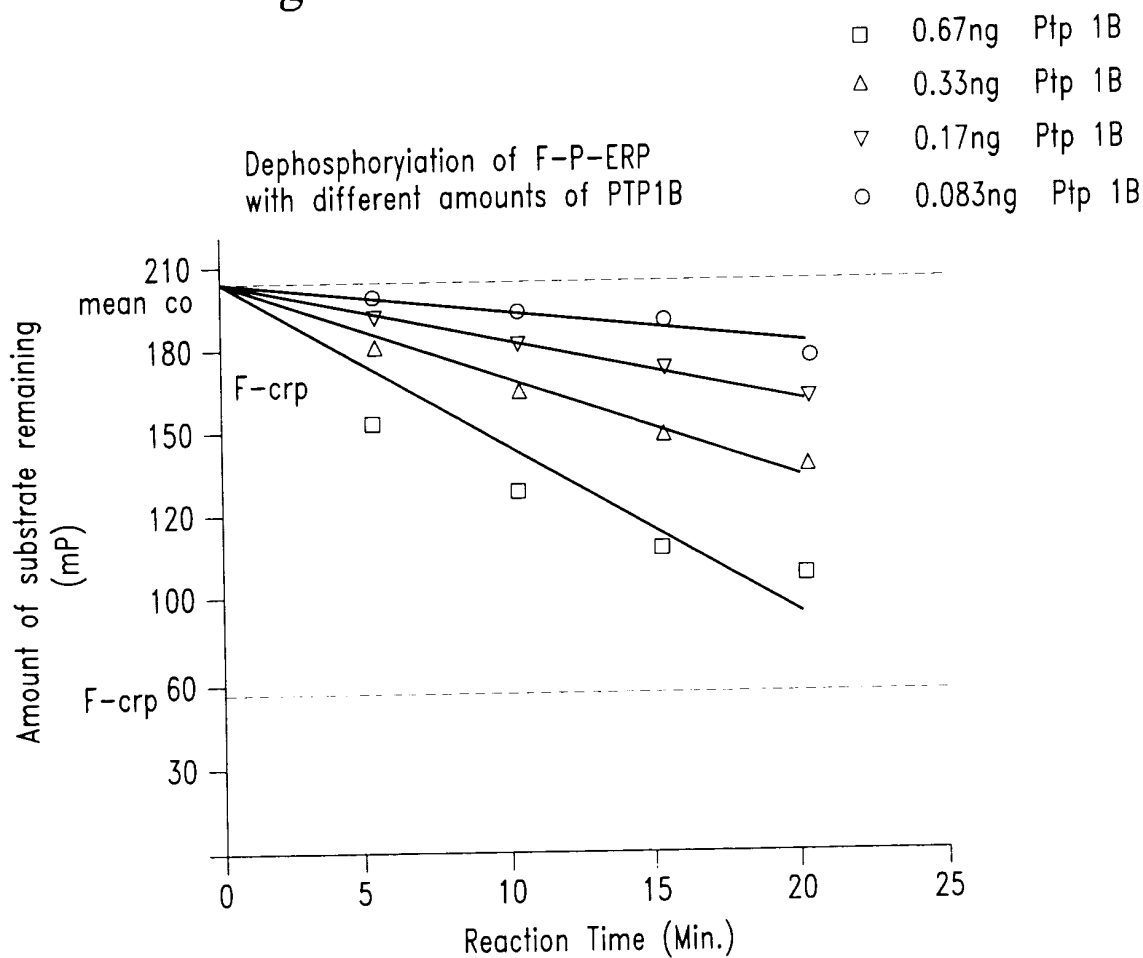


Fig. 6



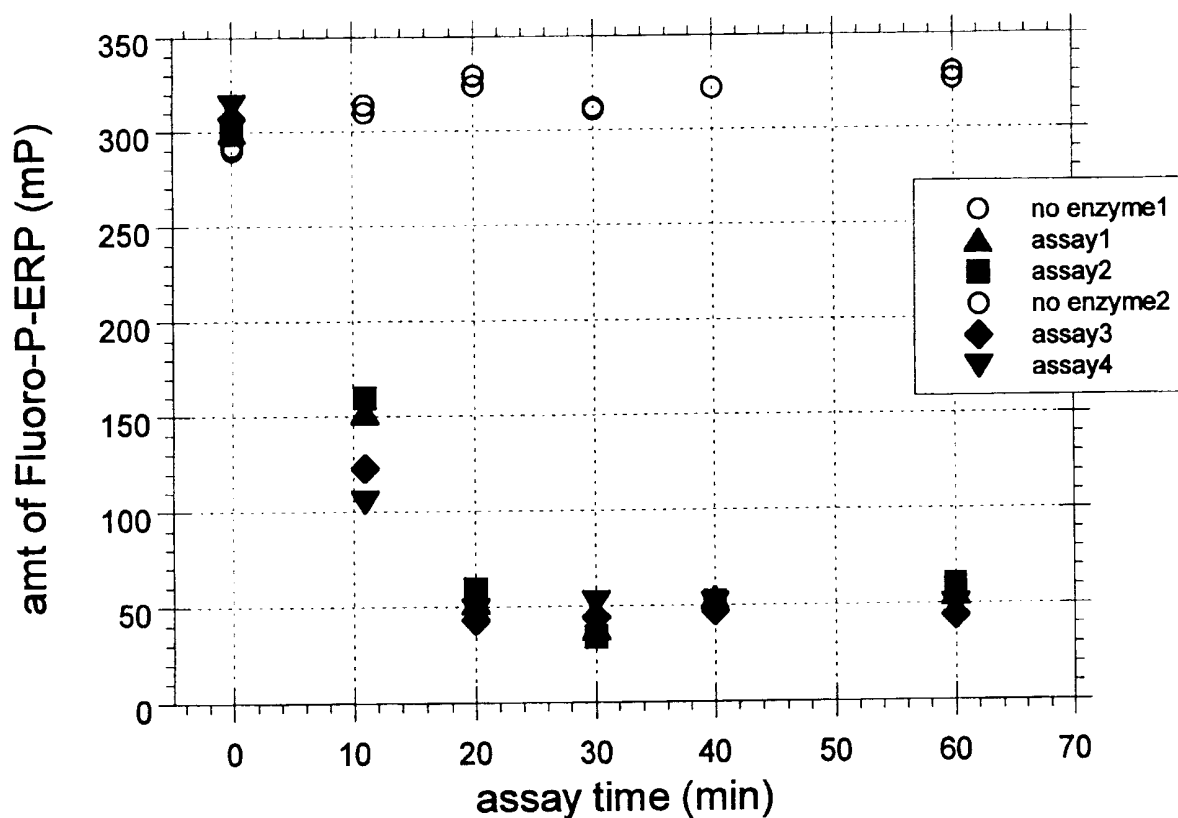


Fig. 7A

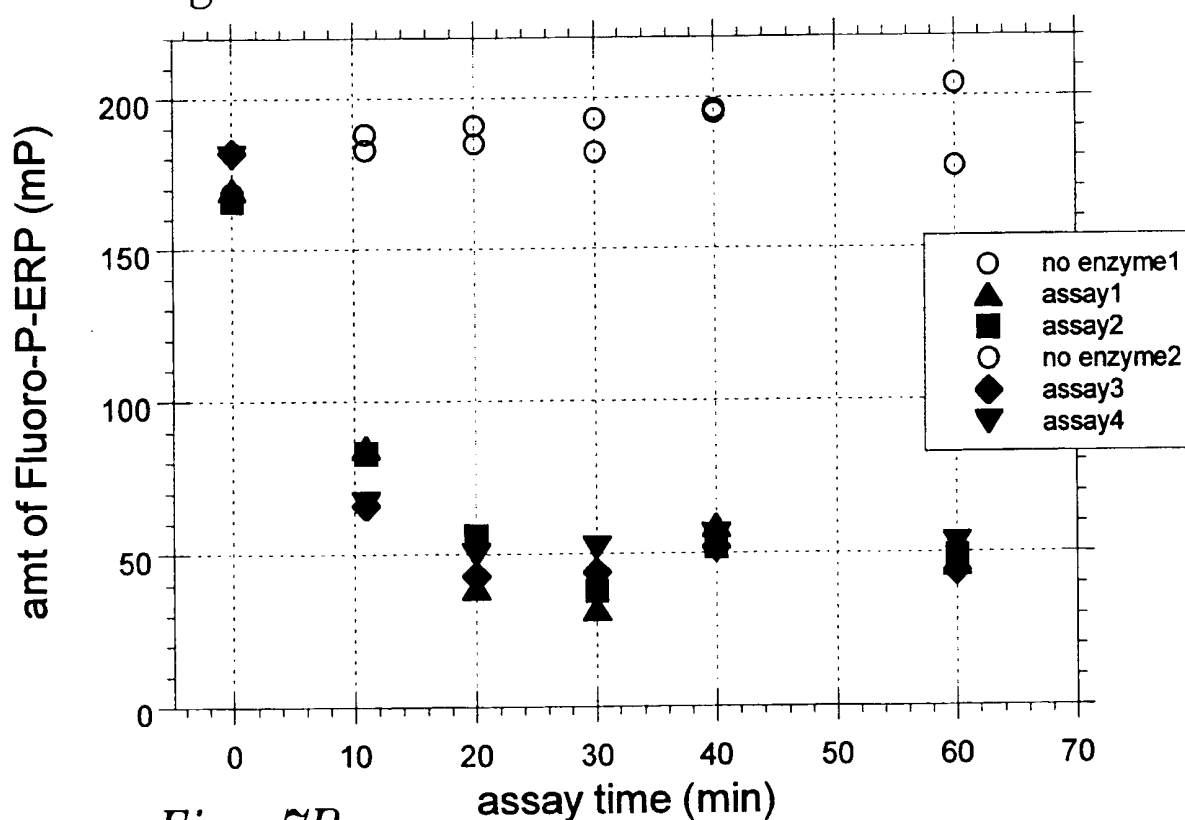


Fig. 7B

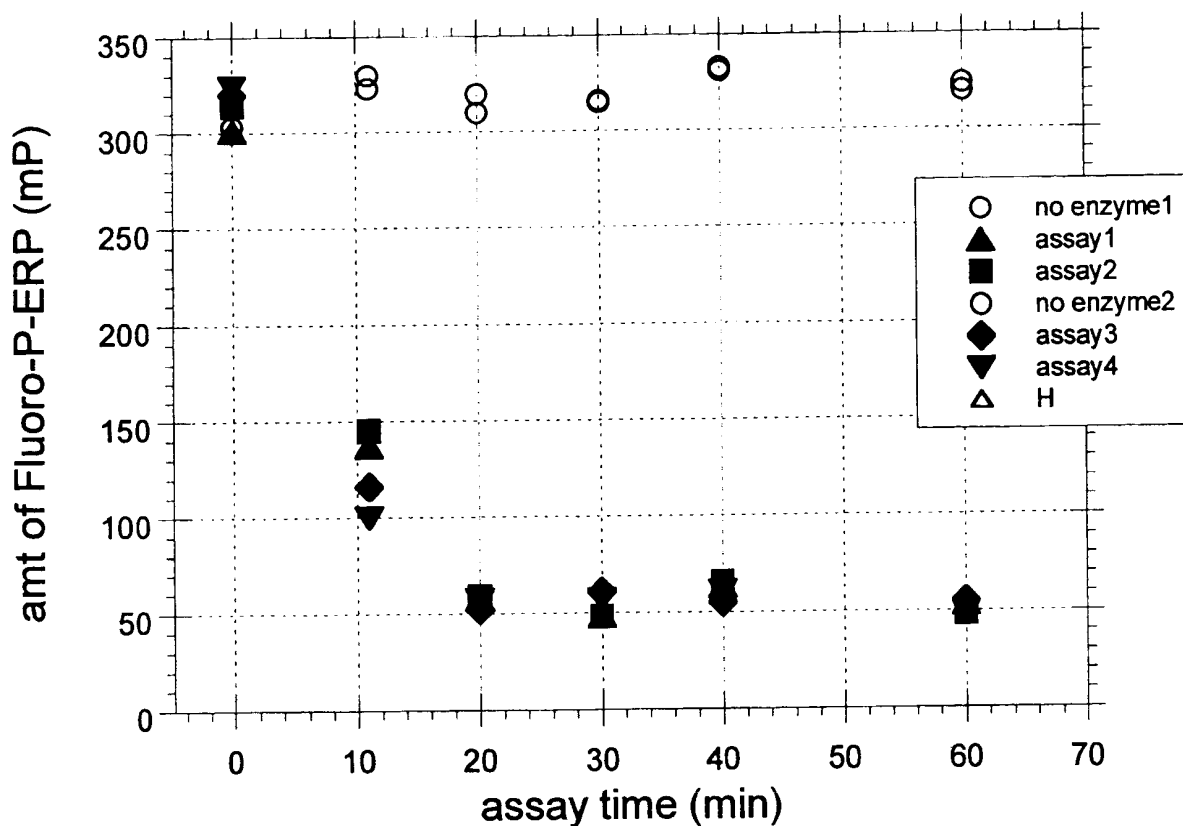


Fig. 7C

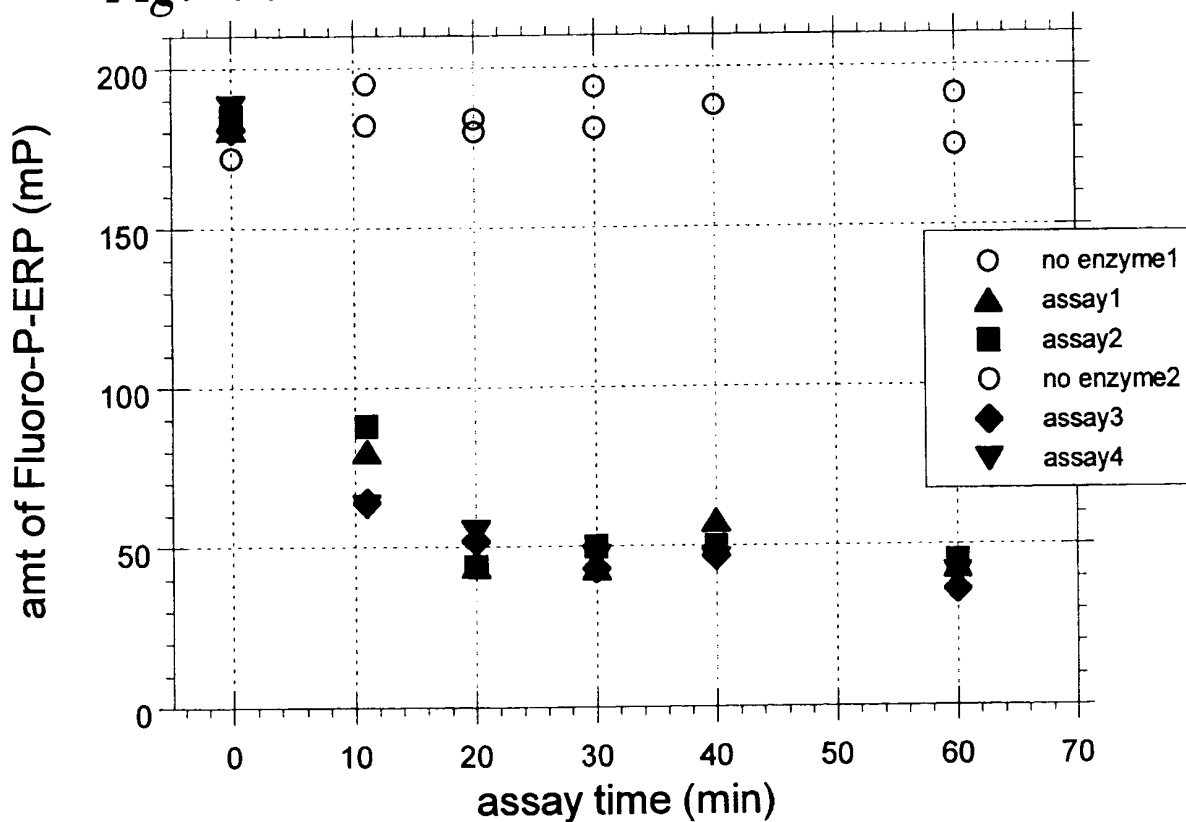


Fig. 7D

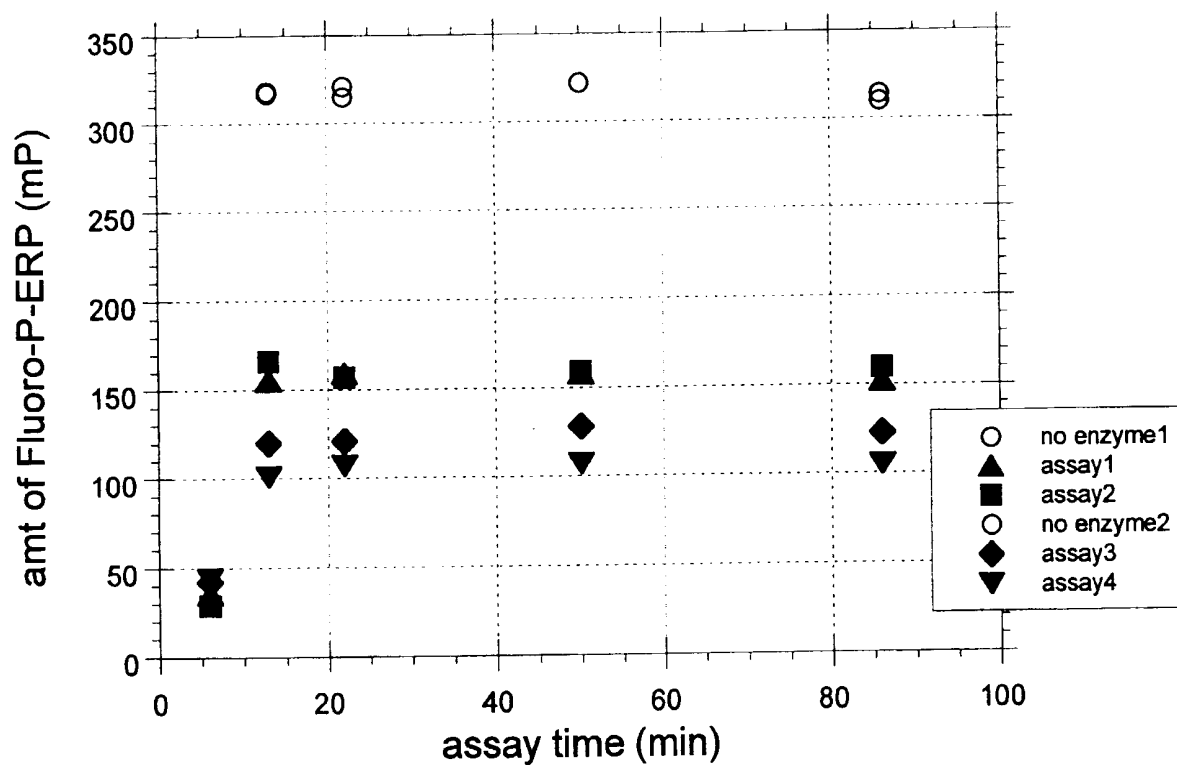


Fig. 8A

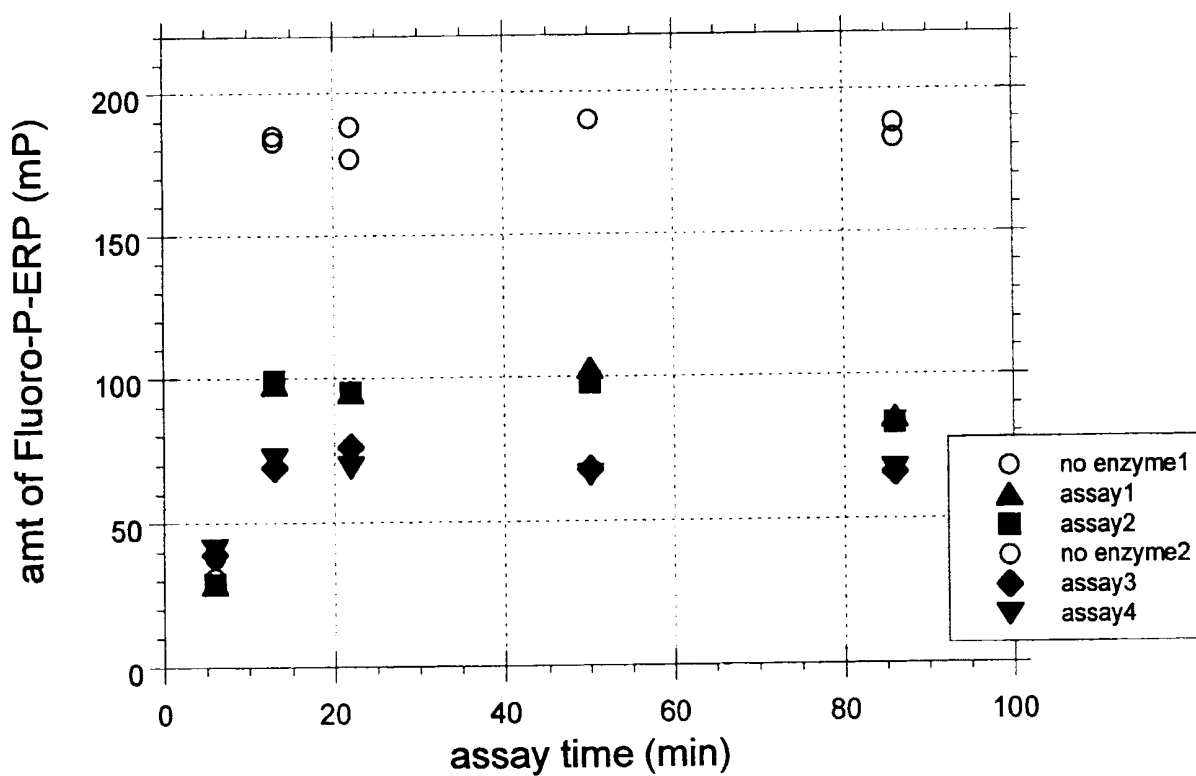


Fig. 8B

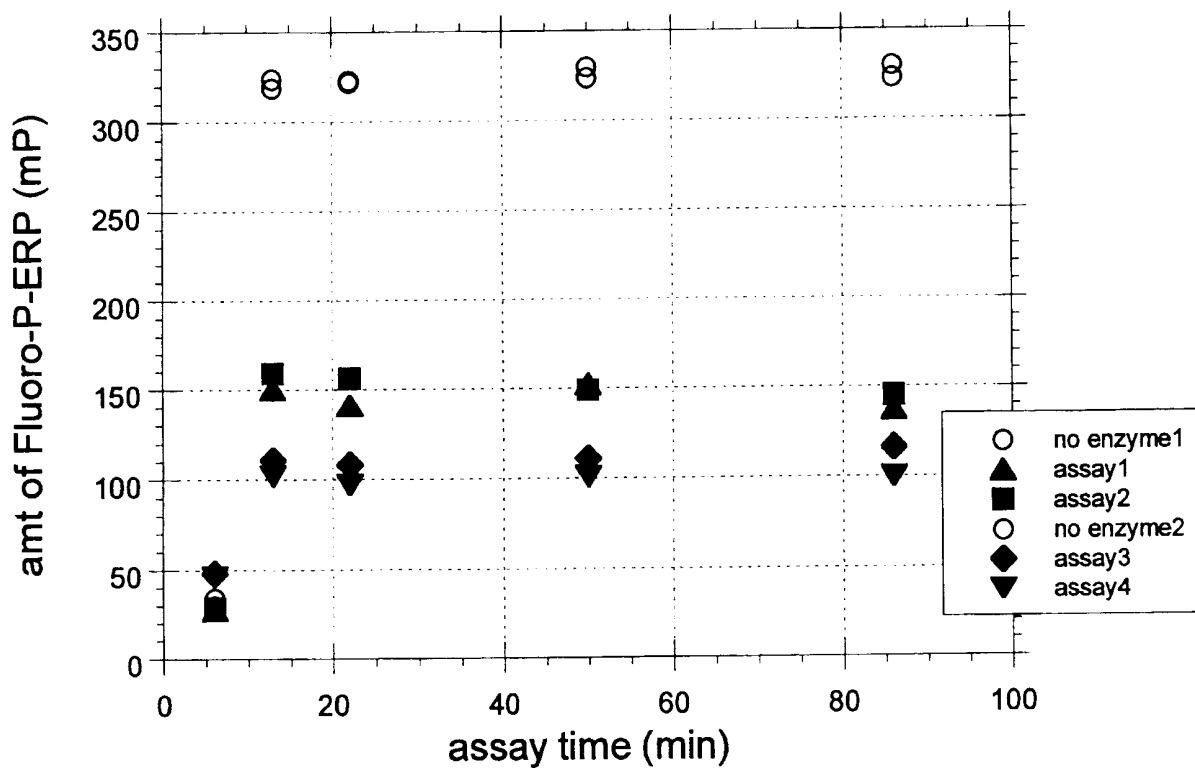


Fig. 8C

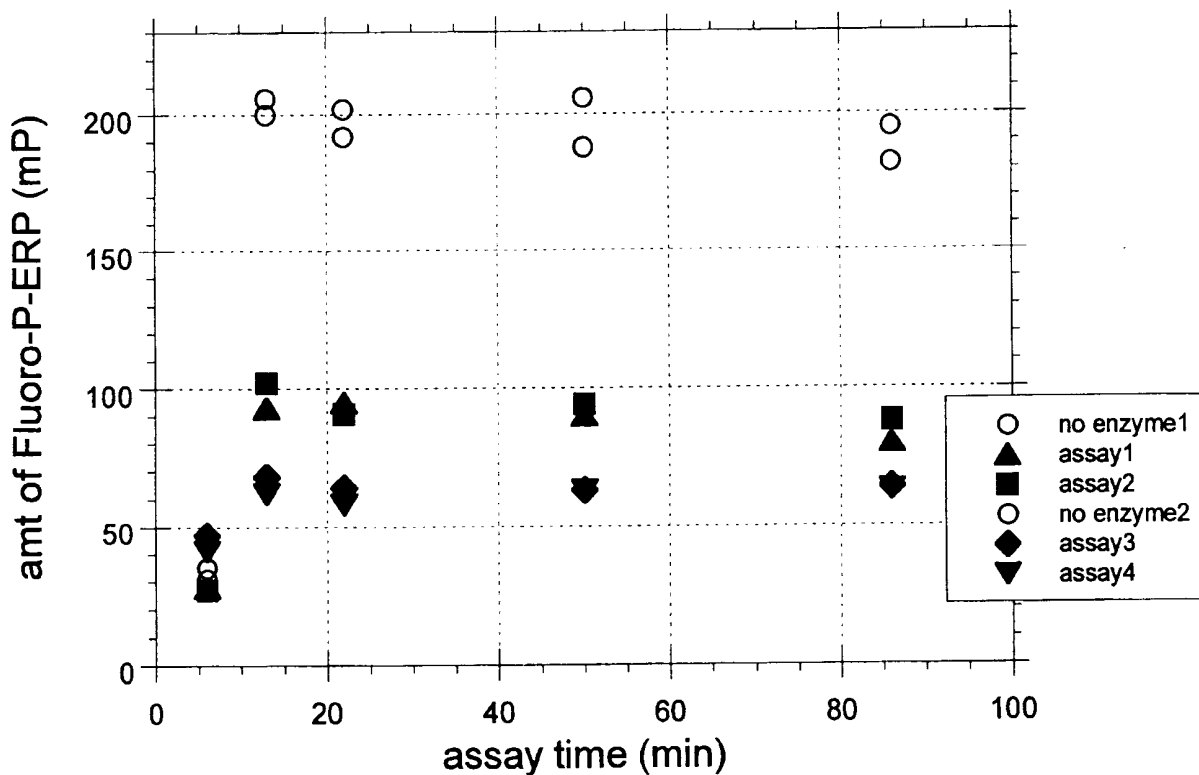
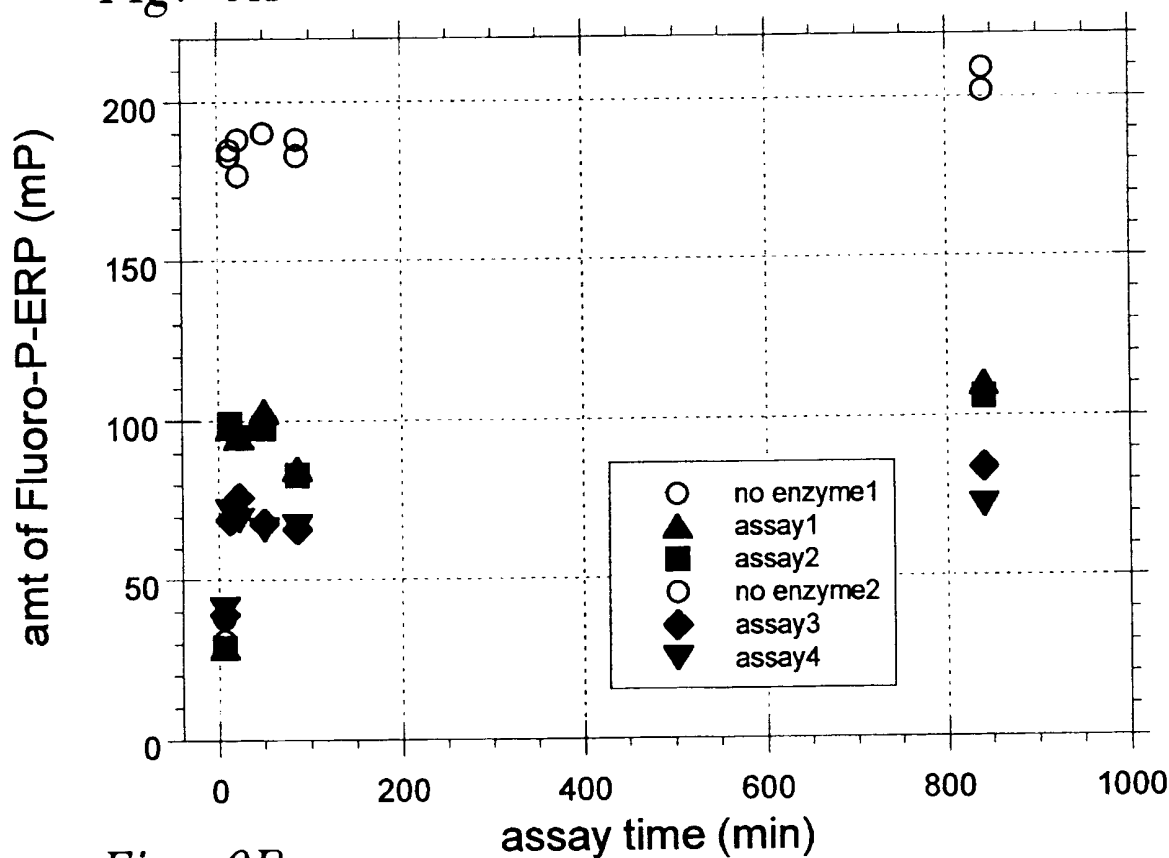
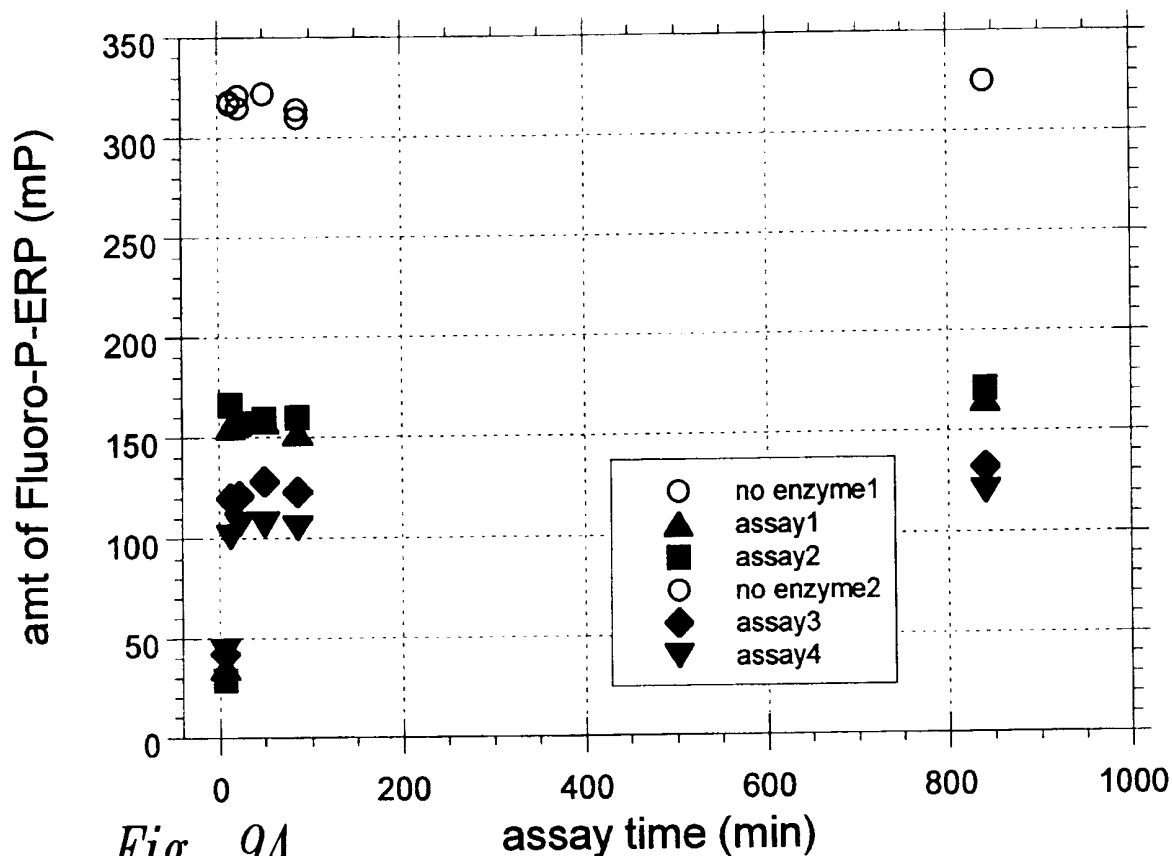


Fig. 8D



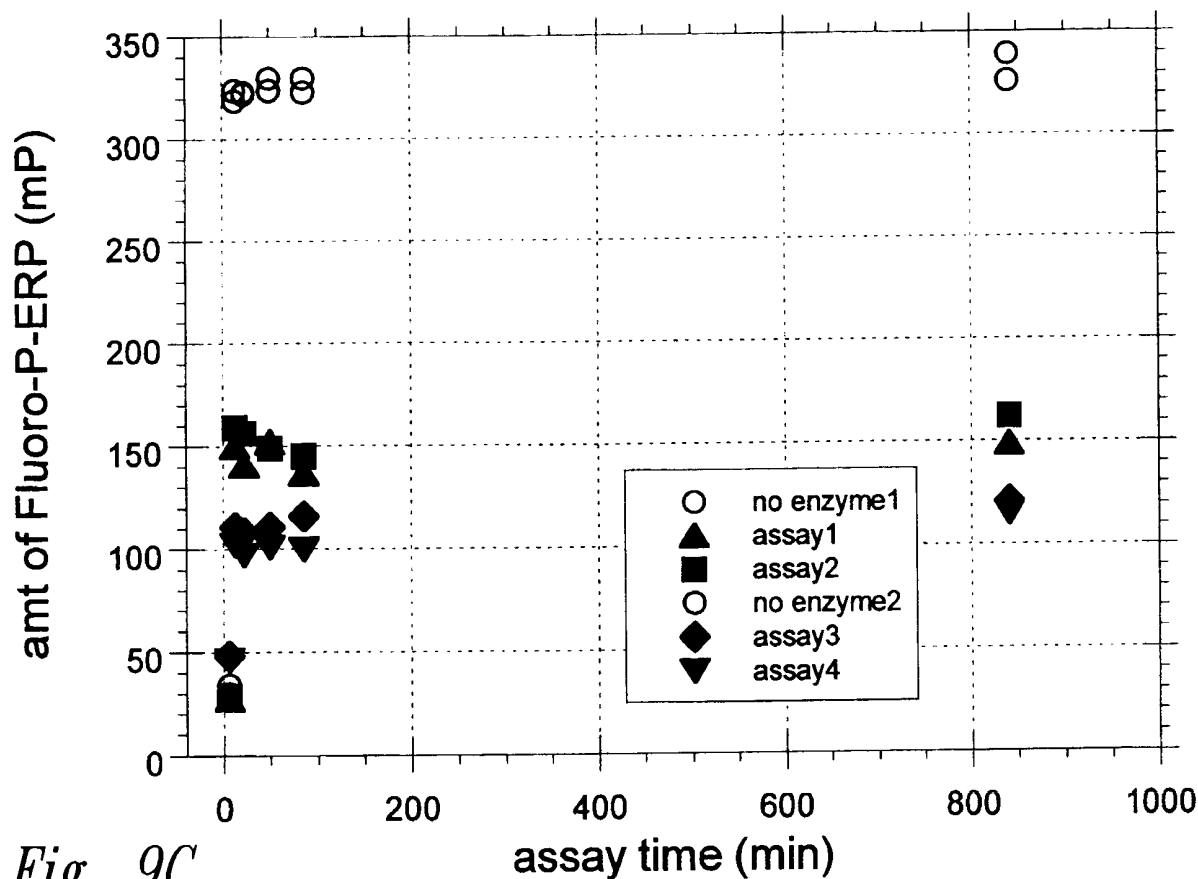


Fig. 9C

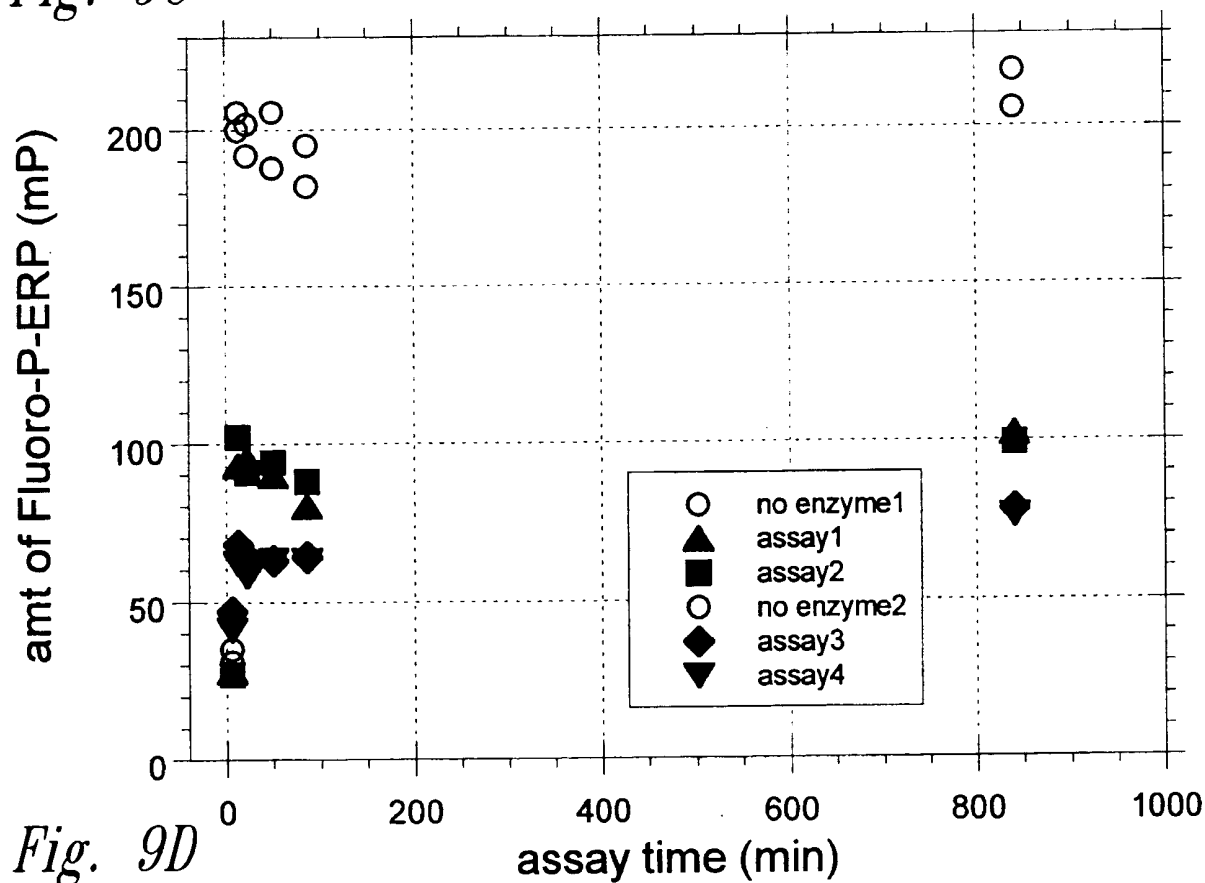
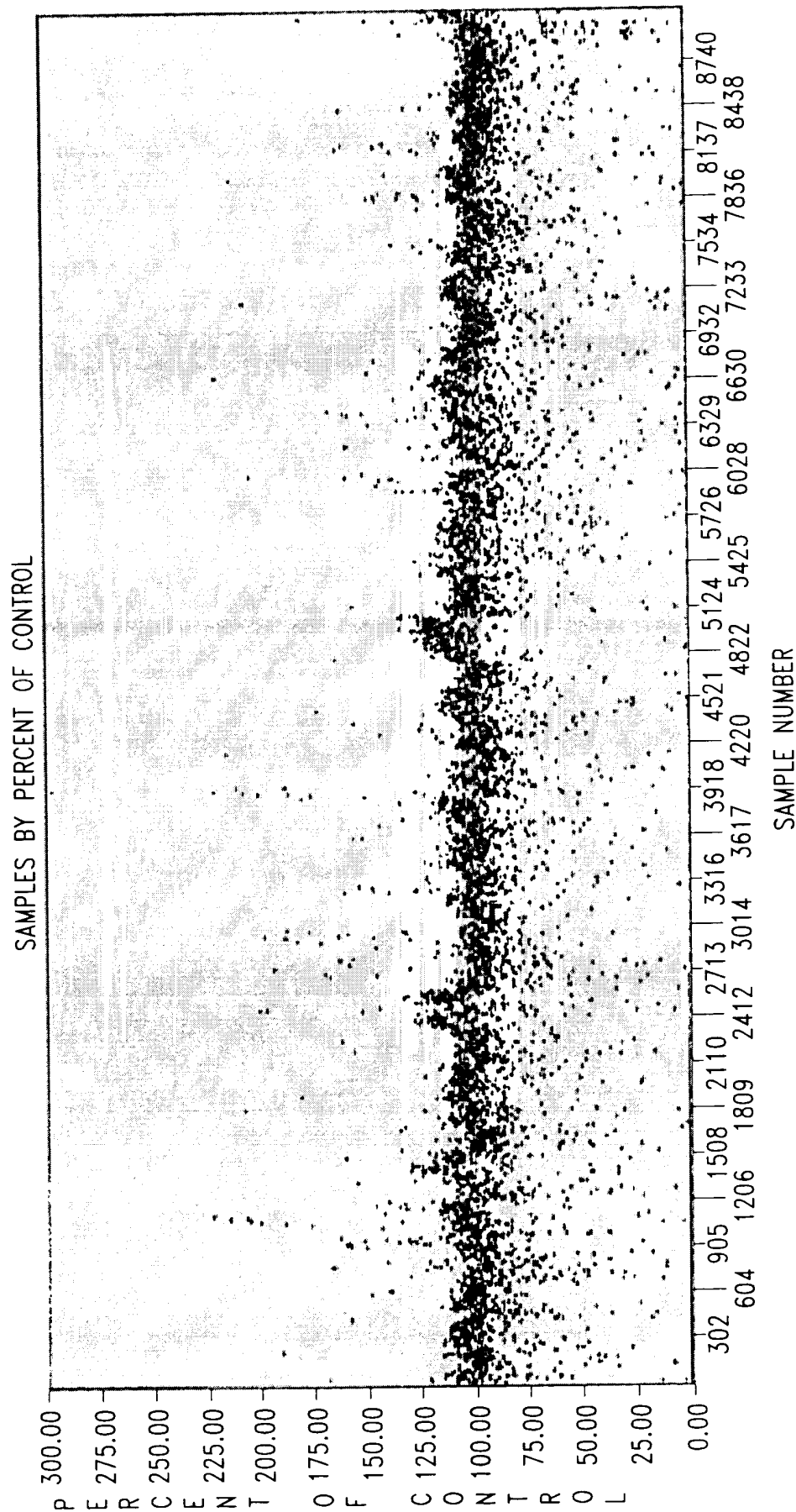
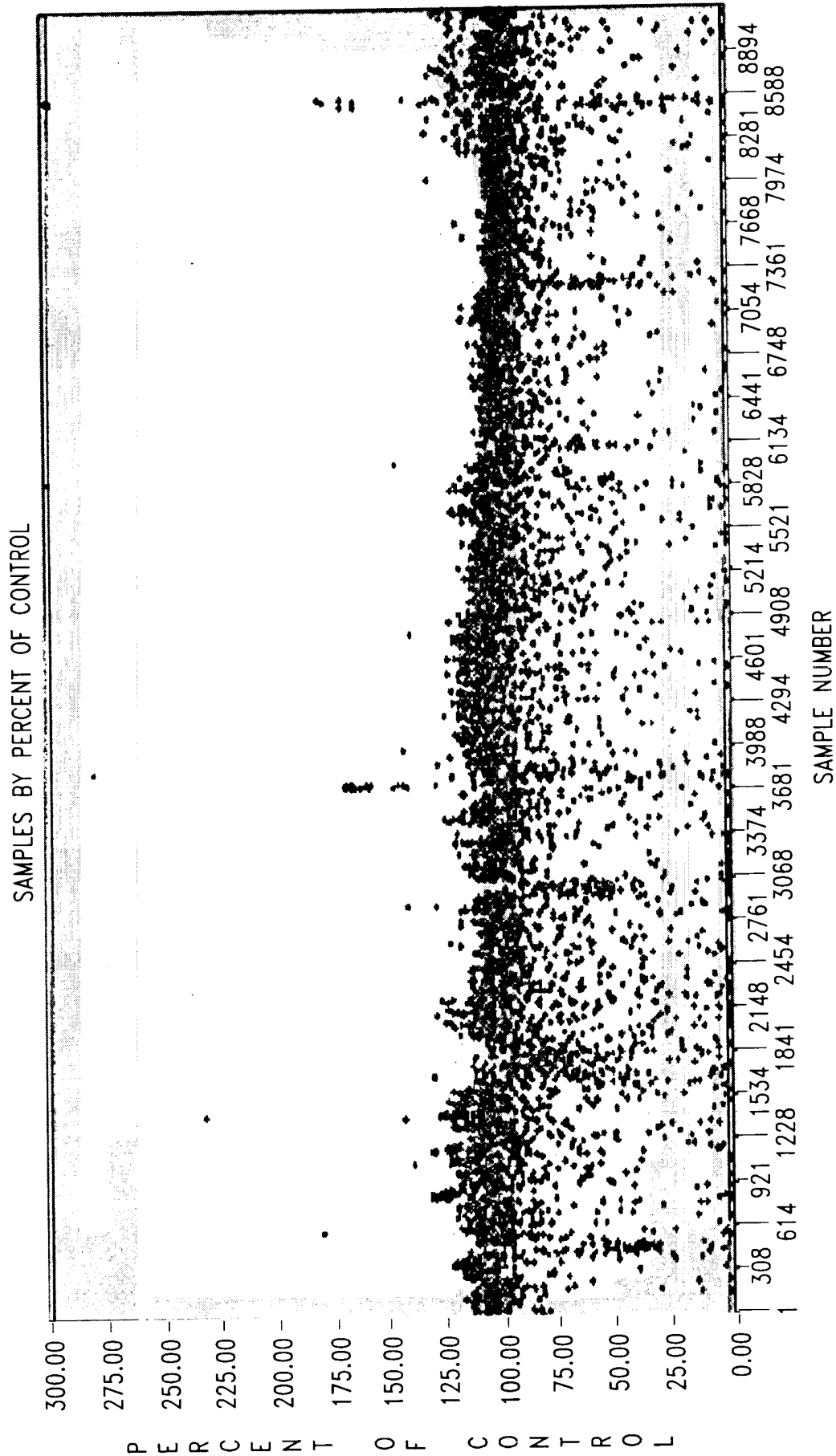


Fig. 9D



*Fig. 10A*



*Fig. 10B*